

MEETING MINUTES
LIGNITE RESEARCH COUNCIL
July 22, 1998
Kelly Inn, Bismarck, ND

MEMBERS (or their authorized alternates) PRESENT:

Gerald Bauman	Coal Conversion Counties Association
Dick Bergstad	I.B.E.W. #714
Steven Benson	Energy & Environmental Research Center
Warren Candy	Minnesota Power
Kevin Cramer	North Dakota Economic Development & Finance
John Dwyer	Lignite Energy Council
Randel Christmann	North Dakota State Senator
Rich Fockler	Basin Electric Power Cooperative
Mick Grosz	North Dakota House of Representatives
Bruce Hagen	North Dakota Public Service Commission
Ron Haugen	North Dakota Farmers Union
Kent Janssen	Dakota Gasification Company
Doug Kane	MDU Resources Group, Inc.
Russ Nelson	Cooperative Power
Ed Murphy	North Dakota Geological Survey
Dean Peterson	The North American Coal Corporation
Chuck Reichert	BNI Coal, Ltd.
Fritz Schwindt	North Dakota Department of Health
David Sogard	Minnkota Power Cooperative
Valdon Swanson	North Dakota Farm Bureau
Gordon Westerlind	United Power Association

OTHERS PRESENT:

Jonathan D. Anderson	Technology Transfer, Inc.
Jim Deutsch	North Dakota Public Service Commission
Karlene Fine	Industrial Commission of North Dakota
Vicki Gilmore	Lignite Energy Council
Steve McCormick	Northern Improvement Co.
Carmen Miller	Office of North Dakota Attorney General
Clifford R. Porter	Lignite Research Council
Mike Robb	King Coal Furnace Corporation
Dr. George W. Schossow	GLENTECH
Kenneth J. Schwartz	K. J. Schwartz Engineering Inc.
Terry Steinwand	North Dakota Game and Fish Department
Lyle Witham	North Dakota Department of Health

Lignite Research Council (LRC) chairman John Dwyer called the LRC meeting to order on July 22, 1998, at Kelly Inn, Bismarck, North Dakota. He asked that each person introduce himself, and he welcomed Gerald Bauman of the Coal Conversion Counties Association to his first meeting as a member of the LRC.

Financial Summary

Clifford R. Porter summarized the balance as of May 31, 1998 for the 1997-1999 North Dakota Lignite Research, Development and Marketing Program: budget for administration of the program: \$252,507; small research projects: \$458,083 available uncommitted funds; demonstration projects: \$1,456,324 available funding.

Approval of Minutes

Dwyer asked for a motion to approve the minutes of the February 18, 1998 LRC meeting. Bruce Hagen so moved; seconded by Doug Kane. Motion carried.

Lignite Research Council Executive Committee Actions of May 7, 1998

Porter said the Lignite Research Council Executive Committee met on May 7, 1998 and adopted revised funding guidelines for the lignite marketing feasibility studies, approved three lignite marketing feasibility studies and recommended increased funding for small research projects by transferring \$276,755 from demonstration project funds to small research projects. Porter said LRC members will vote on these LRC Executive Committee actions later in the meeting.

Montana Constitutional Challenge to North Dakota Coal Sales Tax Law

Porter summarized the Montana constitutional challenge to the North Dakota coal sales tax law. House Bill 1467 enacted by the Fifty-fifth Legislative Assembly amended Section 57-39.2-02.1 of the North Dakota Century Code related to sales tax. A complaint was filed in Burleigh County District Court against the North Dakota State Tax Commissioner on December 22, 1997 by Kennecott Energy Company (KEC) and Spring Creek Coal Company (SCCC) to challenge the North Dakota coal sales tax law. The law imposes a use tax on sales of coal that are not subject to North Dakota severance tax and that are used at North Dakota power plants. SCCC is a subsidiary of KEC and a producer of subbituminous coal in Montana. The law applies to coal used in North Dakota generation facilities that is not subject to severance tax. North Dakota severance tax (used for the state general fund, coal trust fund, counties, cities and schools) is in lieu of sales tax. On June 1, 1998, KEC and SCCC filed a motion for summary judgment. The response is due September 8, 1998.

Dwyer asked Lyle Witham to comment on the litigation. Witham said he attended a recent meeting at which Solicitor General Laurie Loveland met with an attorney from the North Dakota State Tax Department to discuss strategy and response. Witham said the argument will be that this is a compensatory tax.

Dwyer asked Witham to give a synopsis and time frame of what will happen after the September 8, 1998 response. A reply brief will be due within approximately five days after the September 8th response, but the court might grant additional time. The judge will have a significant number of commerce clause law issues to study, Witham said.

Witham estimated it might be December 1, 1998 before the District Court judge's decision on the motion.

Doug Kane asked the name of the solicitor handling the case for the state of North Dakota. Witham said Bob Wirtz from the North Dakota Tax Department will handle the case. Laurie Loveland has read the briefs.

Minnesota Externalities Proceedings

Clifford Porter asked Witham for an update on the Minnesota externalities proceedings. Witham said the case is almost at an end. The Minnesota Court of Appeals made a decision not to reverse the decision of the Minnesota Public Utilities Commission which did not impose any carbon dioxide values on North Dakota and did not impose any of the other values for coal conversion facilities located beyond 200 miles of Minnesota's borders. Witham said that ruling in favor of the lignite industry is still intact. Western Fuels was the only appellant (out of nine) to appeal the Court of Appeals' decision to the Minnesota Supreme Court. The Lignite Energy Council and the state of North Dakota filed a protective petition. Witham said the case is over unless the Minnesota Supreme Court decides to accept the case for review or to grant certiorari.

Dwyer said that based on possible new evidence in the future, another administrative hearing could be held to examine the externalities issue again.

Dwyer added the LRC should be aware that the U. S. Department of Energy (DOE) appropriations bill contains language that suggests that DOE establish environmental externalities for various forms of generation.

Deadline for Proposal Applications; Future LRC Meeting

Porter said September 1, 1998 is the deadline for submitting proposals for consideration for Grant Round XXXII. The next LRC meeting is scheduled for November 4, 1998.

LRC Vote on LRC Executive Committee Meeting Actions of May 7, 1998

It was moved by Chuck Reichert and seconded by David Sogard that the LRC ratify the following actions taken by the LRC Executive Committee on May 7, 1998: 1) Revise the recommended target funding guidelines for the \$400,000 in the lignite marketing feasibility studies market areas for the 1997-1999 biennium as follows: \$50,000 for market assessment, \$50,000 for Kyoto economic study, \$25,000 for byproduct marketing studies, \$250,000 for environmental studies, and \$25,000 for contingency; 2) Recommend funding for three lignite marketing feasibility studies: "Absorption of Mercury after Human Consumption of Northern Plains Regional Game Fish and Associated Health Risks" (funding of \$250,000), "Update to the Lignite Marketing Feasibility Study" (funding of \$50,000), and "Analysis of Kyoto Protocol's Impact on Agricultural Production in Minnesota, North Dakota and South Dakota" (funding of \$27,200), and 3) Recommend transfer of \$276,755 from the demonstration projects area to the small research projects area. Motion passed. Porter said the Industrial Commission accepted the LRC Executive Committee's recommendations for all three actions.

Update on Anhydrous Ammonia and Carbon Dioxide Pipeline Projects

Kent Janssen gave an update on the "Production of Anhydrous Ammonia from North Dakota Lignite" project that resulted in construction of the anhydrous ammonia from lignite plant at Dakota Gasification Company's (DGC) Great Plains Synfuels Plant. The project was approved by the Industrial Commission in 1995 and the plant became operational in 1997. The plant produces approximately 1,050 tons of anhydrous ammonia per day. Most of the anhydrous ammonia is sold in North Dakota. Minnesota is the second largest customer.

Janssen also discussed the demonstration project for a carbon dioxide pipeline to capture, compress and transport carbon dioxide from the Great Plains Synfuels Plant to the Weyburn oilfield in Saskatchewan, Canada, where it will be used for enhanced oil recovery. The project was approved for funding in Grant Round XXVIII from 1997-1999 biennium funding. First delivery of the carbon dioxide is expected in December 1999.

Dwyer asked Janssen about carbon dioxide credits for the entire lignite industry. Janssen said he did not know what would happen as a result of the Kyoto Treaty. DGC's agreement with Canada is that DGC and Canada will each receive half of the sequestration credits.

Dr. George Schossow - GLENTECH

Dr. George Schossow, director of research for GLENTECH (Global Environmental Technologies), Brookings, South Dakota, discussed a potential proposal for a pilot plant operation for a stack gas cleaning process he is developing. He was advised by Dwyer to discuss this flue gas scrubbing concept with LRC members Rich Fockler of Basin Electric Power Cooperative and Doug Kane of MDU Resources Group, Inc.

Lignite Research, Development and Marketing Program Updates

Porter distributed copies of the document titled *Lignite Research, Development and Marketing Program Technical Summary (January 1, 1998)*, and he welcomed LRC members' comments and/or questions about the summary.

Porter summarized the current status of the Lignite Research, Development and Marketing Program. During the 1997-1999 biennium, four lignite marketing feasibility studies have received a total to date of \$357,200 in Lignite Research Funds. These studies are LMFS-96-25: "Intermediates and Derivatives from Phenol"; LMFS-98-1: "Absorption of Mercury After Human Consumption of North Dakota Regional Game Fish"; LMFS-98-2: "Update to the Lignite Marketing Feasibility Study"; and LMFS-98-3: "Analysis of Kyoto Protocol's Impact on Agricultural Production in Minnesota, North Dakota and South Dakota". There is \$72,800 available for lignite marketing feasibility studies for the 1997-1999 biennium. During the biennium, 19 research program projects (small projects) were completed and 29 projects were active. Eleven projects were active as of July 13, 1998. LRF funding for the biennium's active projects is \$3,092,688. As of March 2, 1998, there was \$458,083 in available unobligated targeted funding for the small projects for this biennium.

Topics of the five active demonstration projects with obligated funding are: the carbon dioxide pipeline, the forced oxidation gypsum plant to be constructed at Coal Creek Station, the rear-dumping dragline bucket project, the demonstration of lignite combustion byproducts in the Riverdale haulroad, and lignite testing in the high-temperature advanced combustion furnace. For this biennium there is \$1,456,324 available for demonstration projects.

Grant Round XXXI Grant Applications

Porter summarized technical peer reviewers' comments for the four Grant Round XXXI proposals. As technical advisor to the LRC, he also gave his recommendations for funding these proposals.

LRC-XXXI-A: "Demonstration of North Dakota Lignite Bottom Ash in Road Construction"; Submitted by EN-ROCK, Incorporated; Principal Investigator: Mark Flaagan; Request for \$32,000; Total Project Costs: \$69,516; Project Duration: 18 months.

Porter said the principal objective of this small research project is to demonstrate the use of bottom ash from Coal Creek Station in road base construction. The primary goal is to demonstrate engineering performance of the bottom ash. The three technical peer reviewers gave the project an average weighted score of 174 out of 250 points. All three recommended that the project be funded, as did Porter. Potential conflict-of-interest parties are Cooperative Power Association, United Power Association and The North American Coal Corporation. This project is in the byproduct priority area of small research projects.

Francis Schwindt suggested to Russ Nelson that the project duration be extended to a three-year time frame instead of 18 months.

LRC-XXXI-B: "Integrated Fluid-Bed - Asphalt Paving System"; submitted by Energy & Environmental Research Center; Principal Investigator: Michael D. Mann, Ph.D.; Request for \$35,535; Total Project Costs: \$106,605; Project Duration: 6 months.

The principal objective of this small research project is to generate detailed design drawings and specifications of the integrated fluid-bed - asphalt paving system and to determine the cost of producing the system. All three technical peer reviewers recommended the project be funded. The average weighted score is 213.7 out of 250 points. Porter also recommended the project be funded.

The Energy & Environmental Research Center is a conflict-of-interest party. Porter said this project falls under the environmental priority area of small research projects.

Steve Benson and Mike Robb spoke in support of the proposal. Robb said this asphalt paving system would be scaled down in size to make it portable for use at remote sites. The system will provide heat for the asphalt-making process and will provide mechanical energy to drive components of the asphalt plant.

Robb added that because there are asphalt plants throughout North Dakota, potentially hundreds of thousands of tons of lignite could be used with this system.

LRC-XXXI-C: "Bench-scale Tests to Evaluate Mercury Fly Ash Interactions"; submitted by Energy & Environmental Research Center; Principal Investigator: Stanley J. Miller; Request for \$40,000; Total Project Costs: \$2,425,641. Project Duration: 2 years.

Porter said this is a small research project in the combustion priority area. The objective of the project is to develop mechanisms and a model to predict the transformations and fate of trace toxic species during the combustion of coal. The study's emphasis is the transformation of mercury during the combustion of lignite. The average weighted score of the three technical peer reviewers is 223.3 out of 250 points. All three reviewers and Porter recommended the project be funded. The Energy & Environmental Research Center is the conflict-of-interest party. Benson spoke in support of the project, which he said will look at the effects of ash on transformation of mercury.

LRC-XXXI-D: "Fish Consumption Survey: Minnesota and North Dakota"; submitted by Energy & Environmental Research Center; Principal Investigator: Steven A. Benson, Ph.D.; Request for \$39,000; Total Project Costs: \$130,000. Project Duration: 1 year.

Porter said the goal of this project is to determine the fish-eating tendencies of North Dakotans and Minnesotans, through the use of a survey questionnaire, implementation of the survey, analysis of hair from selected survey respondents, and statistical analysis and reporting. The average weighted score of the four technical peer reviewers is 171.3 out of 250 points. Two reviewers recommended the project be funded, one said funding should be considered, and one said do not fund. Porter recommended the project be funded, with these conditions: 1) Selection of an advisory board including representatives from state agencies in Minnesota and North Dakota (health departments, game and fish departments) and national organizations (Electric Power Research Institute, National Fisheries Institute, U. S. Department of Energy) and industry, and 2) Preparation of a detailed work plan as a part of Task 1 and acceptance of the work plan by the advisory board.

The conflict-of-interest party is the Energy & Environmental Research Center. Benson spoke in support of the project. He said some of the project tasks would be revised in response to the technical reviewers' comments. Benson said the survey will involve the use of both direct mail and telephone interviews.

Proposed 1999-2001 Biennium Budget

Dwyer asked the LRC members to mark their preferences on the *1999 R&D Funding Guidelines* form.

The 1997-1999 biennium funding for nonmatching lignite marketing feasibility studies is \$400,000. Sixteen LRC members indicated on the forms that they recommend an increase in this funding for the 1999-2001 biennium.

Three indicated the funding should be kept at \$400,000. Porter said the nonmatching lignite marketing feasibility studies funding should be increased to help address future environmental issues affecting the lignite industry. This funding may also be used for contracting for nonmatching environmental studies and activities, and studies and activities that assist with marketing of lignite-based electricity and lignite-based byproducts.

It was moved by Rich Fockler and seconded by Kane to recommend to the Industrial Commission that the funding for nonmatching lignite marketing feasibility studies increase from \$400,000 to \$500,000 for the 1999-2001 biennium. Motion carried.

For demonstration projects and small research projects, the 1997-1999 biennium funding guidelines are 80% for demonstration projects and 20% for small research projects. Matching funding is required

for demonstration and small research projects. LRC members marked their *1999 R&D Funding Guidelines* forms as follows in answer to the question "Should the 1999-2001 biennium funding guidelines for demonstration and small research projects 1) Increase demonstration project funding and decrease small research project funding? (2 votes); 2) Remain the same? (7 votes), or 3) Decrease demonstration project funding, and increase small research project funding? (10 votes).

It was moved by Kane and seconded by Fockler to recommend to the Industrial Commission that for the 1999-2001 biennium the demonstration projects (large projects)/research projects (small projects) expenditures split of 80%/20% be changed to a 75%/25% split. Motion carried. Reichert asked why the change in the split needed to be recommended. Kane said there has been an increase in the number of small research projects. Reichert asked that the minutes reflect his "no" vote for this motion.

It was moved by Kane and seconded by Hagen to approve the 1999-2001 proposed administrative budget of \$400,000 for the Lignite Research, Development and Marketing Program. Motion carried.

Confidential Balloting for Grant Round XXXI Proposals

The LRC cast confidential ballots to either recommend or deny funding of the four Grant Round XXXI proposals. Balloting results will be presented to the Industrial Commission for consideration when it reviews these proposals on August 10, 1998.

The LRC votes on the Grant Round XXXI proposals were as follows:

LRC-XXXI-A: Fund: 20; Do Not Fund: 1. Requested funding from Lignite Research Fund: \$32,000.

LRC-XXXI-B: Fund: 21; Do Not Fund: 0. Requested funding from Lignite Research Fund: \$35,535.

LRC-XXXI-C: Fund: 20; Do Not Fund: 1. Requested funding from Lignite Research Fund: \$40,000.

LRC-XXXI-D: Fund: 14; Do Not Fund: 7. Requested funding from Lignite Research Fund: \$39,000.

Other Business

The next LRC meeting has been rescheduled for November 4, 1998, at the Radisson Inn, Bismarck. Dwyer said the LRC meeting will be held in conjunction with the Lignite Energy Council annual meeting scheduled for November 4 and November 5, 1998, at the Radisson Inn. The LRC meeting had been scheduled previously for November 5, 1998.

At the LRC meeting on November 4, votes will be cast for LRC chairman and vice chairman. Dwyer asked Hagen, Kane and Valdon Swanson to serve as the nominating committee to recommend names for these two positions.

Gordon Westerlind said that Cooperative Power and United Power Association expect to merge under the name of Great River Energy by January 1, 1999. Headquarters for Great River Energy will be located at Elk River, Minnesota. Dwyer asked Westerlind to request representation for Great River Energy on the LRC after January 1, 1999.

Adjournment

There being no further business, the meeting was adjourned pursuant to a motion by Schwindt that was seconded by Dean Peterson. Motion carried.

Vicki Gilmore, Recording Secretary
